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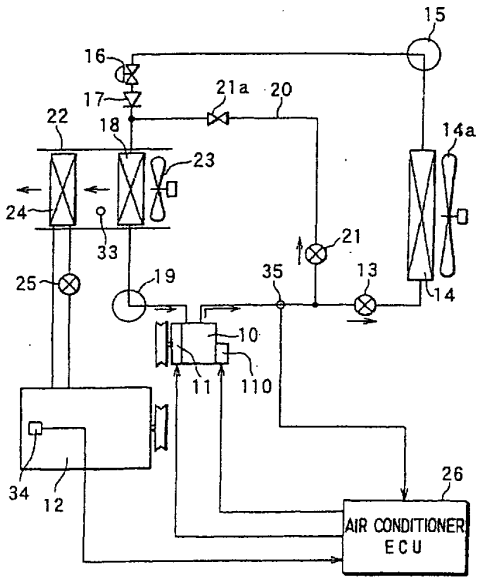
(54) Freezing cycle apparatus

(57) In a freezing cycle apparatus that switches between a cooling mode and a heating mode, wherein a low-pressure refrigerant is evaporated in an evaporator 18 for cooling the air during a cooling mode and a hot gas refrigerant is introduced from the discharge side of a compressor 10 directly into the evaporator 18. A variable displacement type compressor capable of varying the displacement is used as the compressor 10. The displacement of the compressor 10 is controlled such that the refrigerant flow rate in the cooling or heating cycle is a predetermined target flow rate during the cooling and the heating mode.

FIG. 1



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EUROPEAN SEARCH REPORT

Application Number
EP 01 10 5444

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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Y	DE 199 19 104 A (DENSO CORP) 18 November 1999 (1999-11-18) * column 4, line 58 - column 8, line 2; figure 4 *	7-10	
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	5 April 2002	Jessen, F

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
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D : document cited in the application
L : document cited for other reasons

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

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☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

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LACK OF UNITY OF INVENTION
SHEET B

Application Number
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-6,11-14

   Freezing cycle controlled by flow rate

2. Claims: 7-10

   Freezing cycle controlled by differential pressure

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 01 10 5444

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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